

**METHOD AND APPARATUS FOR DYNAMIC POWER MANAGEMENT IN AN  
EXECUTION UNIT USING PIPELINE WAVE FLOW CONTROL**

**ABSTRACT**

5           Power is conserved by dynamically applying clocks to execution units in a pipeline of a microprocessor. A clock to an execution unit is applied only when an instruction to the execution unit is valid. At other times when the execution unit needs not to be operational, the clock is not applied to the execution unit. In a preferred embodiment of the invention, a dynamic clock-control unit is used to provide a control signal to a local clock buffer providing a local clock to an execution unit.